



average for the month being but 0.26, Beaufort scale. As shown by the records of this office the average force of the March winds is 3.2.

The mean pressure for the month, 29.921, was .089 below the normal, a departure only exceeded once before (February, 1902, —.121) in the history of the Weather Bureau.

The rainfall was considerably in excess of the normal on all the islands with the exception of Hawaii, where, with the exception of the Kona district, the precipitation was much less than normal. This was also the case at the stations in the Honolulu and Nuuanu districts on Oahu above the 100-foot elevation. In these districts the heavy rains fell at the stations below this altitude, while at the stations above the downfall was less than normal.

As a result of the conditions above mentioned the relative humidity, dew-point, and cloudiness were all greatly in excess of their respective normals.

The artesian well water showed the effects of the heavy rains of February, and rose to 35.85 feet above mean sea level. These are the highest figures reached since this series of observations was taken up in March, 1899, and the end of April will doubtless show a much higher level. When the level of this water was first ascertained in 1882, it stood at 42 feet above mean sea level.

*Honolulu.*—Temperature mean for the month, 71.2°; normal, 70.7°; average daily maximum, 77.0°; average daily minimum, 66.2°; mean daily range, 10.8°; greatest daily range, 18° (25th); least daily range, 5° (5th); highest temperature, 80° (9th, 10th, and 30th); lowest temperature, 57° (25th).

Barometer average, 29.921; normal, 30.010; highest, 30.06 (29th); lowest, 29.78 (15th and 16th); greatest 24-hour change, that is from any given hour of one day to the same hour on the next, .10 (3 p. m. 18th to 3 p. m. 19th); lows passed this point 1st to 4th, 12th to 18th, and 24th to 27th, inclusive; highs, 19th, 20th, and 29th.

Relative humidity average, 83.5 per cent; normal, 71.7 per cent; mean dew-point, 65.7°; normal, 61.5°; mean absolute moisture, 6.96 grains per cubic foot; normal, 6.05 grains.

Rainfall, 7.30 inches; normal, 3.76 inches; greatest rainfall in twenty-four hours 1.41 inches (14th); rain record days, 22; normal, 18.

The artesian well water level rose from 34.80 to 35.85 feet above mean sea level. March 31, 1903, it stood at 34.85. The average daily mean sea level for the month was 9.77, the assumed annual mean being 10 feet above datum. For March 1903, it was 9.59.

Trade wind days, none; normal, 18; average force of wind, Beaufort scale and during daylight only, 0.26; average cloudiness, tenths of sky, 6.7; normal, 4.6.

Approximate percentages of district rainfall as compared with normal: Hawaii, Hilo district, 12 per cent; Hamakua, 37; Kohala, 56; Waimea, 70; Kona, 162; Kau, 90; Puna, 27; island of Maui, 198; Oahu, Honolulu district, below 100 feet elevation, 189; above, 55; Nuuanu, below 100 feet elevation, 181; above, 82; Koolau, 254; Ewa, 356; Kauai, Lihue district, 228; Hanalei, 167; Waimea, 276.

The heaviest monthly rainfall was at Maunawili, Oahu, 19.97 inches. The heaviest 24-hour rainfalls were at Awini Ranch, Hawaii, 5.46 inches, 23d and Kipahulu, Maui, 4.43, same date.

Temperature table for March, 1904.

Stations.	Elevation.	Mean max.	Mean min.	Cor. av'ge.	High-est.	Low-est.
	<i>Feet.</i>	<i>°</i>	<i>°</i>	<i>°</i>	<i>°</i>	<i>°</i>
Hilo .....	40	84.2	64.9	73.9	89	62
Peepeekeo .....	100	78.8	67.7	72.6	83	66
Olaa Mill .....	210					
Kohala .....	521	80.0	67.1	72.9	86	63
Waimea .....	2,730	74.9	57.2	65.4	80	52
Volcano House .....	4,000					
Waiakeoa .....	2,700	74.5	58.1	65.6	81	50
Keomuku .....	10	79.0	71.5	75.1	85	66
Kinau .....	50	76.7	66.0	70.6	80	56
Ewa Plantation .....	60	76.3	63.7	69.3	80	54
United States Experiment Station .....	350	78.1	66.5	71.7	82	59

Kohala, dew-point, 65.0°; relative humidity, 77.9 per cent.

Ewa Mill, dew-point, 63.0°; relative humidity, 79.0 per cent; barometer average, 29.88.

Honolulu—Dew ten mornings; lightning to southward on the evenings of the 12th and 15th; electric storms, 17th and 19th; thunder, 29th at 8:45 a. m.

Reported from other stations: Hawaii, Kapoho, southerly winds all the month. Pepeekeo, large meteor March 8, at 11:45 p. m., moving from west to east; more or less snow on mountains all the month; very dry and streams running low; thunder 14th and lightning 15th; 18th, distant lightning all night; thunder 28th; large halo round the sun 21st at 12m., and 29th at 11 a. m.; dew nine mornings; heavy surf 23d and 26th; wind force, 2.4; cloudiness, 5.7. Kohala, earthquake 29th at 11:45 a. m., and 30th at 12:15 p. m. Waimea, earthquake 29th; calms and light westerly winds predominated. Hilo, clear weather throughout the month excepting the 24th and 25th.